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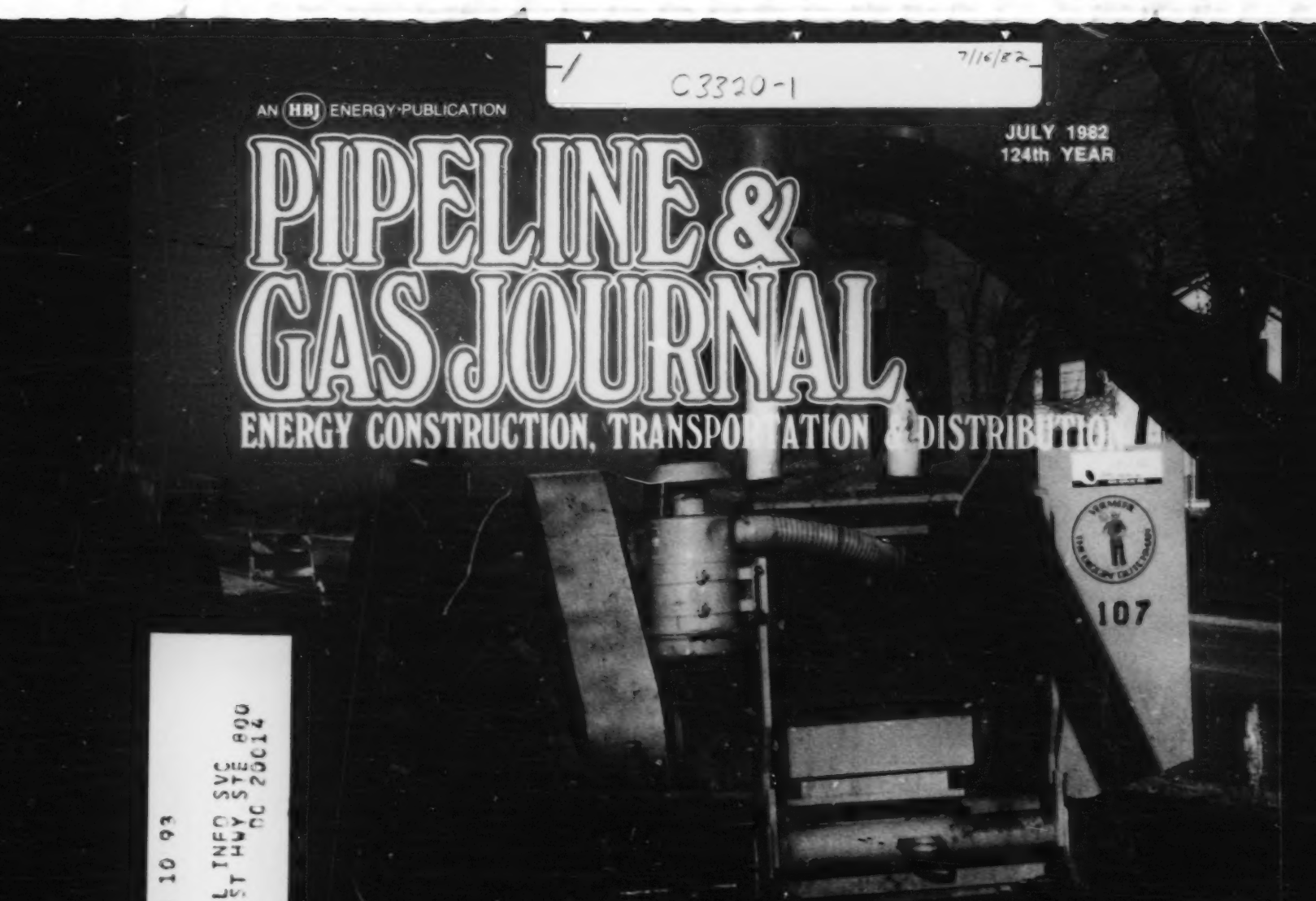

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Construction Innovations

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PIPELINE & GAS JOURNAL

International Pipeline & Gas Utility Design, Construction & Operation

Published Continuously Since 1859

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COVER
"Planting" pipe along the banks of the Mississippi River in Illinois, between Savanna and Thomson, Illinois, contractor crews laid out long strings of 8-in. HDPE pipe ahead of the trencher; pipe was reeled over trencher and directly into ditch.

--photo courtesy Plexco

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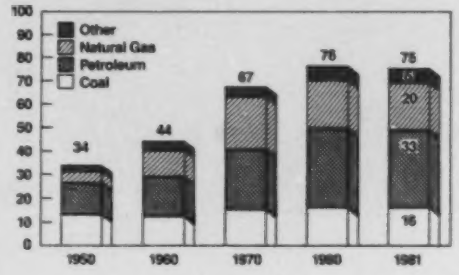
Energy Supply Forecast

United States Energy Consumption
Consumption—Quadrillion Btu



— Source: A.G.A. Gas Supply Committee

Sources Of Natural Gas

Currently Commercial	Not Yet Commercial
• Lower 48	• Coal Gasification
• Alaska	— High Btu
• Canada	— Medium Btu
• Mexico	• Peat Gasification
• Tight Sands	• Oil Shale Gasification
• Devonian Shale	• Geopressured Aquifers
• LNG Imports	• Biomass
• SNG From Liquids	• Coal Seams
• Urban Waste	

— Source: A.G.A. Gas Supply Committee

Supply To 2000: We'll Need Supplemental Gas Supplies

by W. J. Bowen, *Chairman and Chief Executive Officer,*

Transco Companies, Houston, Texas

What's the outlook for gas energy for the remainder of this century? The answer quite possibly may be found in a major study completed by the American Gas Association's Gas Supply Committee – underway for three years – and possibly the most comprehensive and broadly-based supply estimate ever developed by the gas industry.

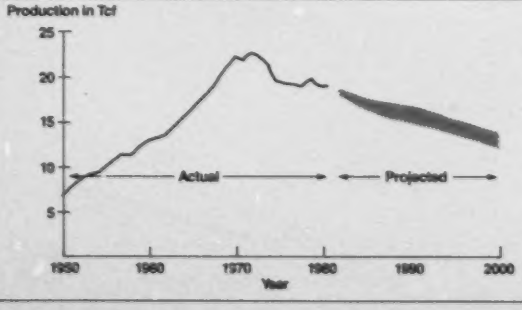
Most experts estimate that U.S. energy consumption by 2000 will be between 90 and 110 quadrillion Btu's. This represents a nominal increase of about 25 quads and, if oil imports are to be reduced, our energy needs will require significant increases in all available domestic energy sources. That includes supplemental sources of gas – both conventional and nonconventional.

Today, the U.S. uses 75 quads of energy. The natural gas share is approximately 27%. If a 25% market share is maintained throughout this century, the 100 quad level would imply that, by 2000, some 25 quads of energy will be needed from natural gas.

In the Lower 48 states, reserves have been declining since

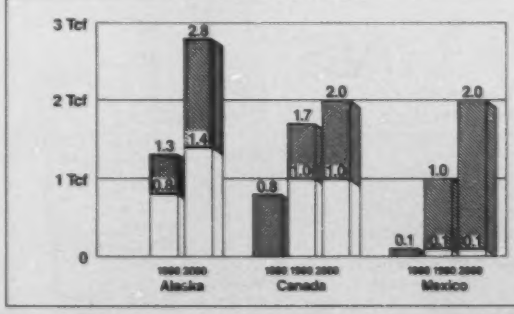
— Source: A.G.A. Gas Supply Committee

Lower 48 Conventional
Natural Gas Production



— Source: A.G.A. Gas Supply Committee

Estimated Alaskan, Canadian,
And Mexican Gas Supplies (Tcf)



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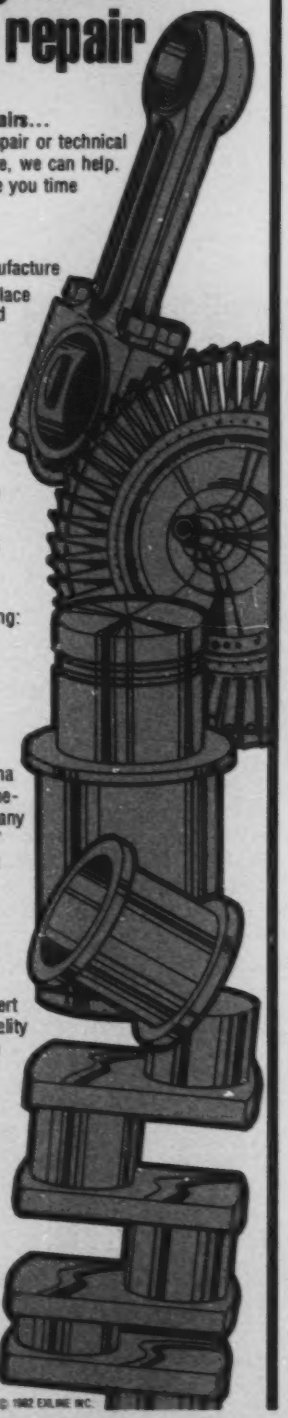

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- **Cylinder Liners:** repair/chrome/fabricate
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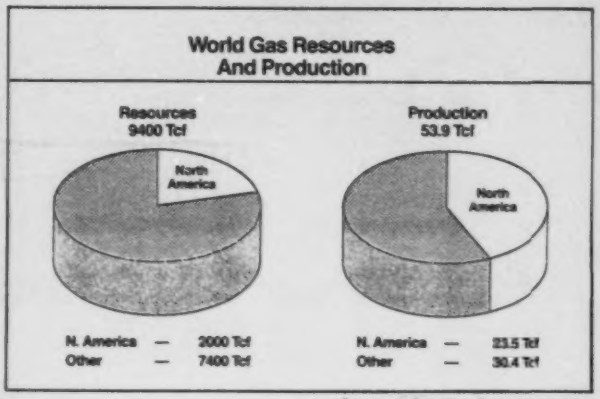


— Source: A.G.A. Gas Supply Committee

1967 because production has exceeded additions to reserves each year. This led to a production problem. Production peaked in 1972 and declined thereafter because of the decline in reserves.

Response to that decline was that gas prices began to rise. This increased drilling activity. Gas well completions began rising sharply in 1972 and a new record was set in 1973. New national records for gas well completions have been set each year since.

In contrast to sharply rising gas well completions, Lower 48 reserve additions generally declined from 1967 through 1977. Most of this was due to controlled wellhead prices.

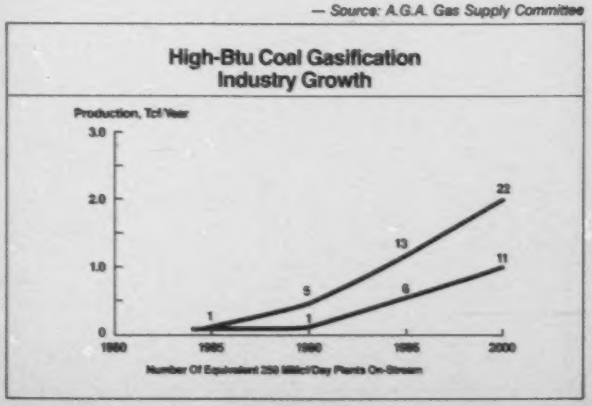
Analysis at A.G.A. has demonstrated that, prior to passage of the Natural Gas Policy Act of 1978 (NGPA), approximately 90% of the gas wells were completed in regions thought to contain only 30% of the gas. To correct this trend, the NGPA created new pricing incentives for the Outer Continental Shelf, for deep gas, and for particular areas in the shallow Lower 48 where drilling activity was not strong because of high drilling costs. Those incentives, intended to encourage development of gas in more difficult areas, have produced positive results.

Even with strong price incentives and record drilling activity, production from the Lower 48 is expected to decrease between 1982 and 2000. Supplemental sources are needed to offset this decline.

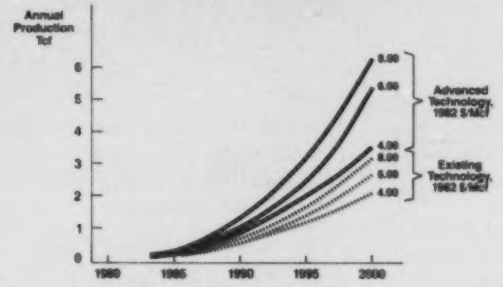
Supplemental Sources

Of the supplemental sources of gas, three available from the North American continent are gas from Alaska, gas from Canada, and gas from Mexico. Production levels of 0.2 Tcf from Alaska, 2.5 Tcf from Canada, and 1.5 Tcf from Mexico are

— Source: A.G.A. Gas Supply Committee



Potential Impact Of Technology On Tight Gas Sands Production



— Source: A.G.A. Gas Supply Committee

Gas Supply Scenarios

Scenario	Emphasis	Restriction
Self Sufficiency	Alaskan, Coal Gas, R&D	Imports
North American Focus	Alaskan, Canadian, Mexican, Coal Gas, R&D	LNG
Moderate Imports	Canadian, Mexican, LNG	Moderate R&D
World Conventional Gas	All Conventional Natural Gas Sources	SNG, Moderate R&D

— Source: A.G.A. Gas Supply Committee

all quite small compared to the 19.3 Tcf of the Lower 48 states.

If the reserves are taken into account, the reserves-to-production ratio (R/P) is a good measure of how vigorously reserves are being produced. A low R/P ratio means reserves are being produced rapidly; a high R/P ratio means production rate is low. Production could be increased in any one of these three areas by a factor of two or three and they would still have a very respectable R/P ratio compared to the Lower 48 states.

By the year 2000, between 1.4 and 2.8 Tcf of gas could be available annually from Alaska. Canada has a capability to increase exports from the current 1 Tcf per year to 2 Tcf per year by 2000. Mexico is capable of increasing gas exports significantly to the 2 Tcf per year level. However, political considerations could cause Mexico to maintain the level near what has been presently approved (300 MMcf per day, equal to 0.1 Tcf per year).

Clearly, pipeline sources for North America are a secure, reliable, and major source of natural gas for the future.

World Gas Resources

World resources of natural gas are very large – 9400 Tcf. About 7400 Tcf is outside of North America, but is a resource that could be the basis for future LNG imports. World gas production (excluding North America) was only 30.4 Tcf in 1980. North America in 1980 produced 23.51 Tcf, about 44% of the world's gas while having only 27% of the world's resources.

There is a tremendous capability for an increase in world production of gas. If it could be increased to the intensity of the Lower 48 states, natural gas would be available that would surpass the capability of local markets to consume that gas.

Under such circumstances, many countries could be in a position to export this gas in large quantities by either liquefying it and shipping it in LNG tankers, or by building pipelines to connect production to points of consumption. A large capital investment would be required to do this – and that could be a major restraint to the growth of world LNG trade.

Five import terminals have been approved for LNG in the U.S. and all but the one in California have been constructed. Rejuvenation of U.S. LNG imports will permit fuller utilization of these facilities. We envision an eventual vigorous world trade in LNG – and assume that the U.S. will be a major participant in this trade.

Coal Gasification

High Btu pipeline gas can be produced from the very large fossil fuel resources in the U.S. that represent between 28,000 and 45,000 quadrillion Btu's. This is recoverable energy. Coal is our most plentiful energy resource – about three-fourths of our remaining fossil fuel energy.

One major energy policy goal is to develop environmentally acceptable and economically attractive ways to use this coal. One such use is coal gasification. Current technology permits the gasification of coal using the Lurgi process, followed by a methanation step to produce high Btu gas. The first U.S. operational plant will be the Great Plains project in North Dakota. This plant is expected to begin producing high Btu gas in 1984.

If the plant is environmentally and economically successful (and if the government provides financial and regulatory support to encourage construction of other plants), by 2000 there could be as many as 20 plants producing over 2.0 Tcf per year.

On the other hand, if government support for such future projects is not positive, as few as 10 plants might be built by

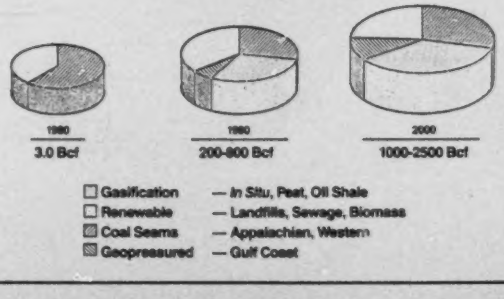
— Source: A.G.A. Gas Supply Committee

Gas Supply Estimates For Year 2000

	Tcf
Conventional Lower 48 States	12–14
Alaskan	1.4–2.8
Canadian	1.0–2.0
Mexican	0.1–2.0
LNG Imports	0.7–2.5
Coal Gas (High, Medium, Low)	1.3–2.7
Tight Formations	1.2–3.0
SNG From Liquid Hydrocarbons	0.1–0.5
Nonconventional	1.0–2.5

— Source: A.G.A. Gas Supply Committee

Potential Nonconventional Gas Production



Gas Supply Scenarios in Year 2000 (Tcf)

	Self Sufficiency	North American Focus	Moderate World Imports	World Conventional Gas Emphasis
Lower 48	13 – 14	12 – 14	12 – 14	12 – 14
SNG From Liquid Hydrocarbons	0.3	0.3	0.3	0.1
Alaskan	2.8	2.8	1.4	2.8
Canadian	1.0	2.0	2.0	2.0
Mexican	0.1	2.0	2.0	2.0
LNG Imports	0.7	0.7	1.5	2.5
Coal Gas	2.7	2.7	1.3 – 2.5	1.3 – 2.5
Tight Formations	1.2 – 3.0	1.2 – 3.0	1.2 – 3.0	1.2 – 3.0
Nonconventional	1.0 – 2.5	1.0 – 2.5	1.0 – 2.5	1.0 – 2.5
Total	22.8 – 27.1	24.7 – 30.0	22.7 – 29.2	24.9 – 31.4

— Source: A.G.A. Gas Supply Committee

2000 with a production level of slightly more than 1.0 Tcf per year. The major buildup of production capability is 10 to 15 years in the future, but these large quantities of domestically produced gas provide an attractive energy option.

Another extremely attractive source of natural gas is tight reservoir formations. Two dominant sources of tight formation gas are tight gas sands, mostly in the Rocky Mountain states, and Devonian shale gas, mostly in the Appalachian states. Volume of gas recoverable from these formations depends largely on the price of the gas and technology available to produce it. At $8 per Mcf in 1982 dollars and with advanced technology, production in 2000 from tight gas could be three times greater than it is today at $4 per Mcf with existing technology.

Production levels from 2 to 6 Tcf per year might be possible. These curves underscore the importance of a vigorous R&D program that will allow the advance technology case to be realized.

Some of the most exciting future supplies of gas are expected to come from the nonconventional gas sources. Already, gas produced from coal seams and landfills is commercial. Other sources – such as gasification of peat and oil shale, or from sewage and biomass, and geopressured gas – are not expected to be commercially productive until the 1990s. In 1980, 3 Bcf came from coal seams and landfills; in addition to this gas, by 1990 gasification and even some pressurized gas might contribute to the 200 to 800 Bcf of gas produced. By 2000, supplies could be as much as 2.5 Tcf. That would still be less than 10% of total gas supply.

Examining Future Probabilities

To facilitate combining various source estimates into a meaningful overall estimate, four national policy scenarios were developed by the committee. The scenarios are simply options that serve to illustrate how gas supplies from different sources change in response to federal policies.

A self sufficiency scenario assumes that federal policies encourage all domestic gas sources and discourage any imports.

A North American Focus scenario is based on a similar concept of emphasizing secure sources of gas supply except that Canadian and Mexican sources are encouraged. Any North American gas source is encouraged. LNG imports are restricted.

The **Moderate World Imports** scenario would permit some limited amounts of increased LNG trade. Restrictions would be placed on such imports so that they would not unduly affect domestic gas supply.

The final scenario, **World Conventional Gas Emphasis,** envisions a world in which gas resources are being vigorously developed everywhere. As a result, large amounts of natural gas are available in many parts of the world for international trade. As might be expected, cheap and available imports would undercut domestic R&D programs and would limit some domestic gas sources.

Clearly, the greater the restrictions, the less supply available. Interestingly, the low values are generally between 23 and 25 Tcf; high values are between 27 and 32 Tcf. The overall view of the scenarios demonstrates a consistency of results.

In the year 2000, our gas supply should exceed 23 to 25 Tcf, but will not be more than 27 to 32 Tcf.

In terms of the original speculation about a total energy demand of 100 quads in 2000, if gas provides a market share of 25%, supplies of 25 Tcf are needed. If gas' share rises to a 30% level, a supply of about 30 Tcf will be needed. That is consistent with the upper limits of the scenarios.

In summary, our estimate is that conventional Lower 48 well production will decrease from the current level of about 19 Tcf to between 12 and 14 Tcf in 2000. Today, the Lower 48 provides over 90% of the U.S. gas supply. By 2000, the Lower 48 will provide about half. To continue to provide reliable gas service to our customers, supplemental sources will be essential. The leve of future gas prices will be very important in this supply picture.

The major uncertainties in these estimates, of course, are those associated with future federal and regulatory policy decisions. Technological uncertainties are also a factor, but timely R&D investment can reduce this uncertainty to acceptable limits.

Finally, the analysis concludes that a vigorous program to develop a wide range of gas energy sources ("The Gas Option") is highly desirable and achievable.

— Source: A.G.A. Gas Supply Committee

Summary

- **Conventional lower 48: 12 – 14 Tcf by 2000.**
- **Supplementals will enable gas supplies to increase.**
- **Gas energy could supply 31 Tcf by 2000**
  - **Federal support to reduce oil imports, emphasizing gas R&D.**
  - **Climate conducive to capital investment.**
  - **Competitive gas prices after decontrol.**

About The Author

W. J. "Jack" Bowen *is chairman and chief executive officer of Transco Companies Inc., a diversified energy company headquartered in Houston, Tex., with two principal subsidiaries. Transcontinental Gas Pipe Line Corp. operates one of the nation's largest gas pipeline systems from the Gulf Coast to markets in 11 Southeast and East Coast states. Transco Exploration Co. is active in oil and gas exploration and production in the Gulf Coast area. Bowen, a native of Texas, is a graduate of the U.S. Military Academy at West Point. He began his oil and gas career in 1949 with Delhi Oil Co. in Dallas and while there was instrumental in organizing a gas pipeline project to Florida. In 1960 he was named chief executive officer of Florida Gas Co. He joined Transco in late 1974.* **P&GJ**

Oil Glut Drags Earnings Down

by Cindy Mays, *Assistant Editor*
Energy Management Report

First quarter earnings of 72 oil companies plunged 35% from the same period in 1981, dragged down by declining prices for petroleum products resulting from the worldwide oil glut. The profit margin for the entire group fell from 5.2% to 3.7%.

Refining and marketing profits were squeezed by falling demand, sharp decline in prices, and the high cost of acquiring foreign crude in certain OPEC countries under long term purchase arrangements at official prices significantly above those of the spot market.

The major oil companies who buy their crude from high-priced Aramco were especially hard hit.

Standard Oil of California's earnings dropped 65% from the first quarter of last year. Socal said U.S. gross production of crude oil and natural gas liquids was more than offset by lower crude oil prices and higher exploration expenses.

Echoing Socal's sentiments, Mobil blamed its 49% decline on the high cost of doing business with Aramco. Texaco's quarterly earnings fell 44% from $658 million to $367 million.

"As a result of the continuing excess of oil supplies and weak petroleum demand, the downward pressure on operating margins intensified during the first quarter of 1982," said John McKinley, Texaco's chairman and CEO.

Demand for most Exxon petroleum and chemical products fell, causing a "depressing effect on selling prices which have fallen at a faster pace than crude oil supply costs." Exxon's earnings dropped 23%.

Shell Oil reported first quarter earnings of $345 million, compared to $361 million in 1981. Once again, lower prices and volumes were blamed.

On the bright side, Standard Indiana posted a 25% increase in net income due largely to the absence of losses in domestic refining, marketing and transportation operations as a result of lower crude oil costs.

Union Oil's higher margins in refining, marketing operations, and earnings from natural gas production in Thailand, resulted in a 9% gain.

Higher domestic oil production and natural gas price increases helped Atlantic Richfield's earnings rise 5%.

American Petrofina cited lower crude oil production and prices for its 21% decline.

American Quasar Petroleum's earnings jumped 149%, from $787,000 to $1.9 million. The in-

FIRST QUARTER GAS COMPANIES FINANCIAL REPORTS

	Three months ending March 31**					
	Revenues ($000)			Earnings* ($000)		Profit Margin‡
	1982	1981	% Chg.	1982	1981	% Chg.	1982	1981
Alabama Tennessee N.G.	37,272	34,061	+ 9.4	1,671	1,638	+ 2.0	4.5	4.8
American Nat. Resources	1,063,295	889,102	+ 19.6	79,900	54,934	+ 45.5	7.5	6.2
Arkansas Louisiana Gas	398,729	339,659	+ 17.4	42,341	34,432	+ 23.0	10.6	10.1
Coastal Corp.	1,565,505	1,771,402	- 11.6	6,002	13,339	- 55.0	0.4	0.8
Columbia Gas	1,875,546	1,471,553	+ 27.5	103,963	86,369	+ 20.4	5.5	5.9
Consolidated Nat. Gas	1,200,451	1,043,042	+ 15.1	86,599	71,218	+ 21.6	7.2	6.8
ENSERCH Corp	1,004,460	834,842	+ 20.3	57,188	55,923	+ 2.2	5.7	6.7
Houston N.G.[1]	820,113	719,477	+ 14.0	67,730	61,688	+ 9.8	8.3	8.6
InterNorth	1,452,833	1,142,615	+ 27.1	106,144	116,362	- 8.8	7.3	10.2
National Fuel Gas	398,741	336,470	+ 18.5	25,027	20,912	+ 19.7	6.3	6.2
Northwest Energy	490,963	428,700	+ 14.5	31,152	22,997	+ 35.5	6.3	5.4
ONEOK Inc.	244,022	221,117	+ 10.4	8,970	3,121	+187.4	3.7	1.4
Pacific Lighting	1,174,430	789,863	+ 48.7	28,757	39,150	- 26.5	2.4	5.0
Peoples Energy	653,533	534,057	+ 22.4	40,536	40,949	- 1.0	6.2	7.7
Pioneer Corp.	302,413	288,155	+ 4.9	29,843	29,198	+ 2.2	9.9	10.1
Sonat Inc.	815,673	678,621	+ 20.2	63,199	50,125	+ 26.1	7.7	7.4
Texas Eastern Corp.	1,424,588	1,154,547	+ 23.4	61,925	58,881	+ 5.2	4.3	5.1
Texas Gas Transmission	783,264	683,164	+ 14.7	29,791	35,641	- 16.4	3.8	5.2
Texas Oil & Gas[2]	481,713	389,659	+ 23.6	62,131	47,874	+ 29.8	12.9	12.3
Transco Companies	928,969	865,190	+ 7.4	36,062	31,386	+ 14.9	3.9	3.6
United Energy Resources	1,577,646	1,261,179	+ 25.1	64,197	55,404	+ 15.9	4.1	4.4
TOTAL	18,694,159	15,876,475	+ 17.7	1,033,128	931,541	+ 10.9	5.5	5.9

*Earnings available to common. **Excluding non-recurring items. ‡Earnings* divided by Revenues.
[1]Three months ending January 31. [2]Three months ending February 28.

FIRST QUARTER OIL COMPANIES FINANCIAL REPORTS

		Three months ending March 31**							
		Revenues ($000)			Earnings* ($000)			Profit Margin‡	
		1982	1981	% Chg.	1982	1981	% Chg.	1982	1981
1.	Alaska Interstate	95,074	91,278	+ 4.2	10,541	17,946	- 41.3	11.1	19.7
2.	Amerada Hess	2,373,216	2,969,215	- 20.1	(16,164)	174,536			5.9
3.	American Petrofina	575,214	666,474	- 13.7	15,995	20,250	- 21.0	2.8	3.0
4.	American Quasar	14,815	13,716	+ 8.0	1,959	787	+148.9	13.2	5.7
5.	Asamera	106,421	113,410	- 6.2	(1,346)	3,604			3.2
6.	Ashland Oil	2,213,151	2,366,092	- 6.5	(20,868)	715			
7.	Atlantic Richfield	6,427,156	7,132,320	- 9.9	385,409	368,324	+ 4.6	6.0	5.2
8.	Beard Oil	9,109	7,051	+ 29.2	429	1,076	- 60.1	4.7	15.3
9.	Belco Petroleum	81,630	77,737	+ 5.0	26,728	24,627	+ 8.5	32.7	31.7
10.	Callon Petroleum[1]	4,804	2,123	+126.3	680	225	+202.2	14.2	10.6
11.	Cities Service	2,277,400	2,198,900	+ 3.6	53,300	57,700	- 7.6	2.3	2.6
12.	Commonwealth Oil Ref.	164,200	304,600	- 46.1	(17,953)	(22,348)			
13.	Consolidated O&G	11,535	11,537		(2,172)	1,982			17.2
14.	Crown Central	418,266	377,368	+ 10.8	(3,046)	(10,228)			
15.	Damson Oil[2]	14,457	9,656	+ 49.7	1,303	1,069	+ 21.9	3.7	11.1
16.	Diamond Shamrock	791,135	872,650	- 9.3	29,149	51,118	- 43.0	3.7	5.9
17.	Dorchester Gas[1]	201,007	151,874	+ 32.4	3,988	6,631	- 39.9	2.0	4.4
18.	Eagle Exploration	1,578	930	+ 69.7	98	419	- 76.6	6.2	45.0
19.	Equity Oil	6,017	5,606	+ 7.3	1,238	1,151	+ 7.6	20.6	20.5
20.	Exeter Oil	1,071	1,467	- 27.0	156	445	- 65.6	14.5	31.0
21.	Exxon	27,109,000	30,323,000	- 10.6	1,240,000	1,600,000	- 22.5	4.6	5.3
22.	Freeport McMoRan	194,875	224,650	- 13.2	26,536	48,962	- 45.8	13.6	21.8
23.	Forest Oil	39,069	31,094	+ 25.6	3,425	2,282	+ 50.1	8.8	7.3
24.	Galaxy Oil	3,340	3,312	+ 0.8	(563)	17			0.5
25.	General American	85,789	85,309	+ 0.6	13,513	10,874	+ 24.3	15.8	12.7
26.	Getty Oil	3,124,577	3,294,621	- 5.2	163,646	229,930	- 28.8	5.2	7.0
27.	Gulf Oil Corp.	7,538,000	7,881,000	- 4.4	267,000	303,000	- 11.9	3.5	3.8
28.	Hadson Petroleum	10,555	2,716	+288.6	5,180	829	+524.8	49.1	30.5
29.	Hamilton Brothers Petr.	54,155	27,185	+ 99.2	5,911	5,831	+ 1.4	10.9	21.4
30.	Helmerich & Payne	94,762	75,990	+ 24.7	20,418	18,704	+ 9.2	21.5	24.6
31.	Hershey Oil	1,786	1,575	+ 13.4	225	396	- 43.2	12.6	25.1
32.	Howell Petroleum	22,814	22,179	+ 2.8	2,042	1,819	+ 12.3	8.9	8.2
33.	Inexco Oil	62,827	52,898	+ 18.8	7,607	6,345	+ 19.9	12.1	12.0
34.	MGF Oil	27,734	24,043	+ 15.4	(783)	2,055			8.5
35.	Mapco Inc.	480,836	580,021	- 17.1	16,013	25,435	- 37.0	3.3	4.4
36.	Marathon Oil	2,057,200	2,424,098	- 15.1	70,211	69,775	+ 0.6	3.4	2.9
37.	Maynard Oil	11,338	9,981	+ 13.6	1,015	2,316	- 56.2	9.0	23.2
38.	Mesa Petroleum	104,139	103,624	+ 0.5	29,604	29,841	- 0.8	28.4	28.8
39.	Mobil Corp.	16,400,000	17,100,000	- 4.1	326,000	640,000	- 49.1	2.0	3.7
40.	Moran Energy	29,059	24,128	+ 20.4	4,083	5,356	- 23.8	14.1	22.2
41.	Murphy Oil	744,356	666,806	+ 11.6	33,378	38,430	- 13.1	4.5	5.8
42.	Natomas	389,629	365,430	+ 6.6	49,854	58,237	- 14.4	12.8	15.9
43.	Noble Affiliates	114,688	88,719	+ 29.3	22,438	18,050	+ 24.3	19.6	20.3
44.	Occidental Petroleum	4,211,700	3,379,600	+ 24.6	39,900	248,700	- 84.0	0.9	7.4
45.	Oxoco	7,501	3,741	+100.5	1,691	474	+256.8	22.5	12.7
46.	Petroleum Development	2,228	3,281	- 32.1	(336)	355			10.8
47.	Petro-Lewis	57,664	44,617	+ 29.2	2,747	7,973	- 65.5	4.8	17.9
48.	Phillips Petroleum	3,813,000	4,229,000	- 9.8	189,000	271,000	- 30.3	5.0	6.4
49.	Prairie Producing	7,130	6,520	+ 9.4	845	1,133	- 25.4	11.9	17.4
50.	Quaker State	224,012	218,157	+ 2.7	5,824	3,636	+ 60.1	2.6	1.7
51.	Shell Oil	4,842,000	5,413,000	- 10.5	345,000	361,000	- 4.4	7.1	6.7
52.	Southland Royalty	94,838	95,680	- 0.9	8,596	9,987	- 13.9	9.1	10.4
53.	Southwestern Energy	21,011	21,008		4,314	5,518	- 21.8	20.5	26.3
54.	Standard California	9,781,000	11,601,000	- 15.7	230,000	666,000	- 65.5	2.4	5.7
55.	Standard Indiana	7,202,000	7,853,000	- 8.3	470,000	377,000	24.7	6.5	4.8
56.	Standard Ohio	3,055,600	3,194,200	- 4.3	454,700	520,400	- 12.6	14.9	16.3
57.	Statex Petroleum[3]	3,368	2,504	+ 34.5	581	589	- 1.4	17.2	23.5
58.	Sun Co.	3,900,000	4,000,000	- 2.5	124,000	120,000	+ 3.3	3.2	3.0
59.	Sundance Oil	23,364	6,250	+273.8	213	(3,888)		0.9	
60.	Tenneco	3,843,655	3,808,954	+ 1.0	113,383	178,011	- 36.3	2.9	4.7
61.	Tesoro	606,346	841,574	- 28.0	22,299	18,398	+ 21.2	3.7	2.2
62.	Texaco Inc.	13,000,000	15,500,000	- 16.0	367,000	658,000	- 44.2	2.8	4.3
63.	Texas American Energy	69,713	81,298	- 14.3	2,002	1,238	+ 61.7	2.9	1.5
64.	Tosco Corp.	823,011	762,429	+ 8.0	510	(38,688)		0.1	
65.	Transcontinental Energy	19,947	22,444	- 11.1	(1,036)	2,056			9.2
66.	Tribune Oil	569	563	+ 1.1	182	164	+ 11.0	32.0	29.1
67.	Union California	2,481,600	2,676,800	- 7.3	168,500	154,500	+ 9.1	6.8	5.8
68.	Universal Resources[3]	17,086	14,145	+ 20.8	3,008	2,808	+ 7.1	17.6	19.9
69.	Wichita Industries	2,090,855	2,757,284	+ 24.2	(377,038)	253,867			9.2
70.	Wiser Oil	14,800	16,639	- 11.1	3,642	4,737	- 23.1	20.5	28.5
71.	Woods Petroleum	20,332	16,377	+ 24.1	5,767	4,667	+ 23.6	28.4	28.5
72.	Worldwide Energy	14,145	12,630	+ 12.0	290	66	+339.4	2.1	0.5
	TOTAL	134,736,259	147,369,078	- 8.6	4,961,761	7,648,214	- 35.1	3.7	5.2

*Earnings available to common. **Excluding non-recurring items. ()Loss. ‡Earnings* divided by revenues. [1]Ends February 28. [2]Ends December 31. [3]Ends January 31.